

Office Work Instruction (OWI)

HOWI8630-S008

02/01/1999

Responsible Office: NASA Headquarters Office of Space Science (OSS) [Code S]
Mission and Payload Development Division (Code SD)

Subject: Launch Preparation Activities

DOCUMENT HISTORY LOG

STATUS (BASELINE/ REVISION/ CANCELED)	DOCUMENT REVISION	EFFECTIVE DATE	DESCRIPTION
Baseline		02/01/1999	This is the initial "baseline" version of the OWI.

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1. PURPOSE The purpose of this Office Work Instruction (OWI) is to define the process by which the Office of Space Science (OSS) develops program/project documents that are required prior to launch.

2. SCOPE AND APPLICABILITY

2.1 The following basic set of documents is required prior to the launch of any given mission: (a) compliance with the National Environmental Policy Act (NEPA), an Environmental Assessment (EA), or Environmental Impact Statement (EIS); (b) Nuclear Launch Safety Approval (if sufficient nuclear material is present on the spacecraft); (c) Mission Success Criteria; (d) appropriate Contingency Plans; and (e) a Statement from the Lead Center Director certifying readiness for launch. This OWI describes the process for generating and approving the first four documents and for approving the fifth document.

3. DEFINITIONS

3.1 Environmental Assessment (EA). Minimum NEPA compliance document describing the mission.

3.2 Environmental Impact Statement (EIS). Documents missions that may have significant impact to the human environment or that may be controversial in the public mind.

3.3 Finding of No Significant Impact (FONSI). Documents the decision of the Enterprise Associate Administrator for a course of action described in the EA.

3.4 HQ Contingency Plan. Describes a specific course of action in the event of a mission failure.

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- 3.5 Launch Readiness Statement. Generally a letter from the Lead Center Director responsible for the mission certifying that the spacecraft is ready for launch.
- 3.6 Mission Success Criteria. Criteria based on the mission Level 1 requirements and the as-built configuration of the spacecraft to assess mission performance after end-of-mission.
- 3.7 National Environmental Policy Act (NEPA). Public law that requires documentation of environmental effects/impacts of agency actions. In this case, the design, development, launch, and operation of a space-science mission.
- 3.8 Record of Decision (ROD). Documents the decision of the Enterprise Associate Administrator for a course of action described in the EIS.

4. REFERENCES

- 4.1 ANSI/ISO/ASQC Q9001-1994
American National Standard, Quality Systems --
Model for Quality Assurance in Design,
Development, Production, Installation, and
Servicing
- 4.2 HCP1280-2 Corrective and Preventive Action
- 4.3 HCP1280-3 Internal Quality Audits
- 4.4 HCP1400-1 Document and Data Control
- 4.5 HCP3410-4 Employee Training
- 4.6 HQPC1150.1 NASA Headquarters Quality Council Policy
Charter

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4.7	HQSM1200-1	NASA Headquarters Quality System Manual
4.8	NHB 1101.3	NASA Organization Handbook
4.9	NPD 1000.1	NASA Strategic Plan
4.10	NPD 8621.1 Policy	NASA Mishap Reporting and Investigating
4.11	NPD 8730.3	NASA Quality Management System Policy (ISO 9000)
4.12	NPD 8800.16	NASA Environmental Management
4.13	NPG 1000.2	NASA Strategic Management Handbook
4.14	NPG 7120.5	NASA Program and Project Management Processes and Requirements
4.15	PD/NSC-25	Presidential Directive/National Security Council -- 25
4.16	14 CFR Subpart 1216.3	NASA NEPA Implementing Regulations
4.17	40 CFR Parts 1500-1508	Council on Environmental Quality Regulations
4.18	42 U.S.C 4321 et.seq.	National Environmental Policy Act of 1969 (NEPA)
4.19		Applicable Program/Project Plan
4.20		Space Science Enterprise Management Handbook

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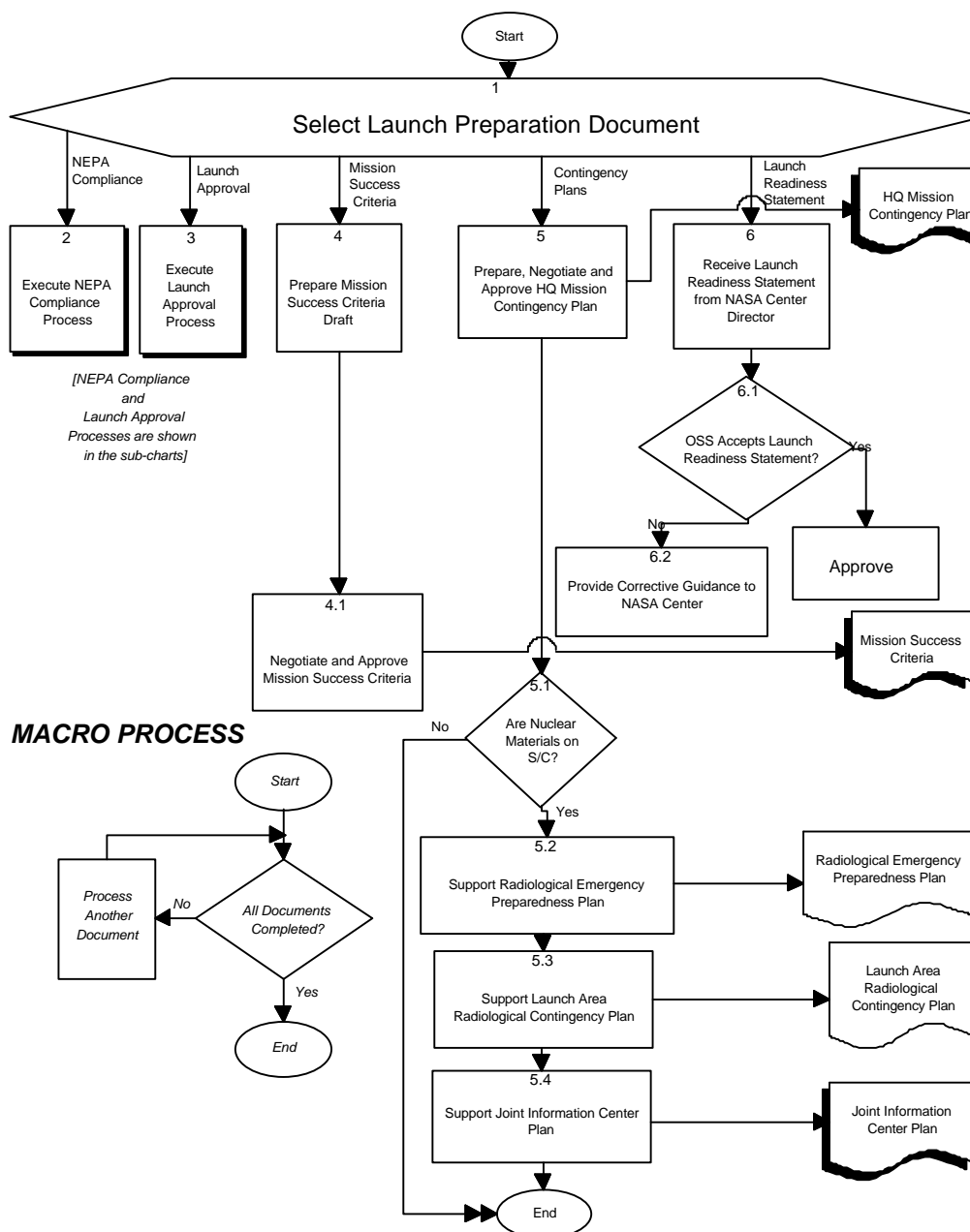
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5. FLOWCHART

[NOTE: "Quality record" output products are identified via shadowing of the standard ANSI document symbol.]



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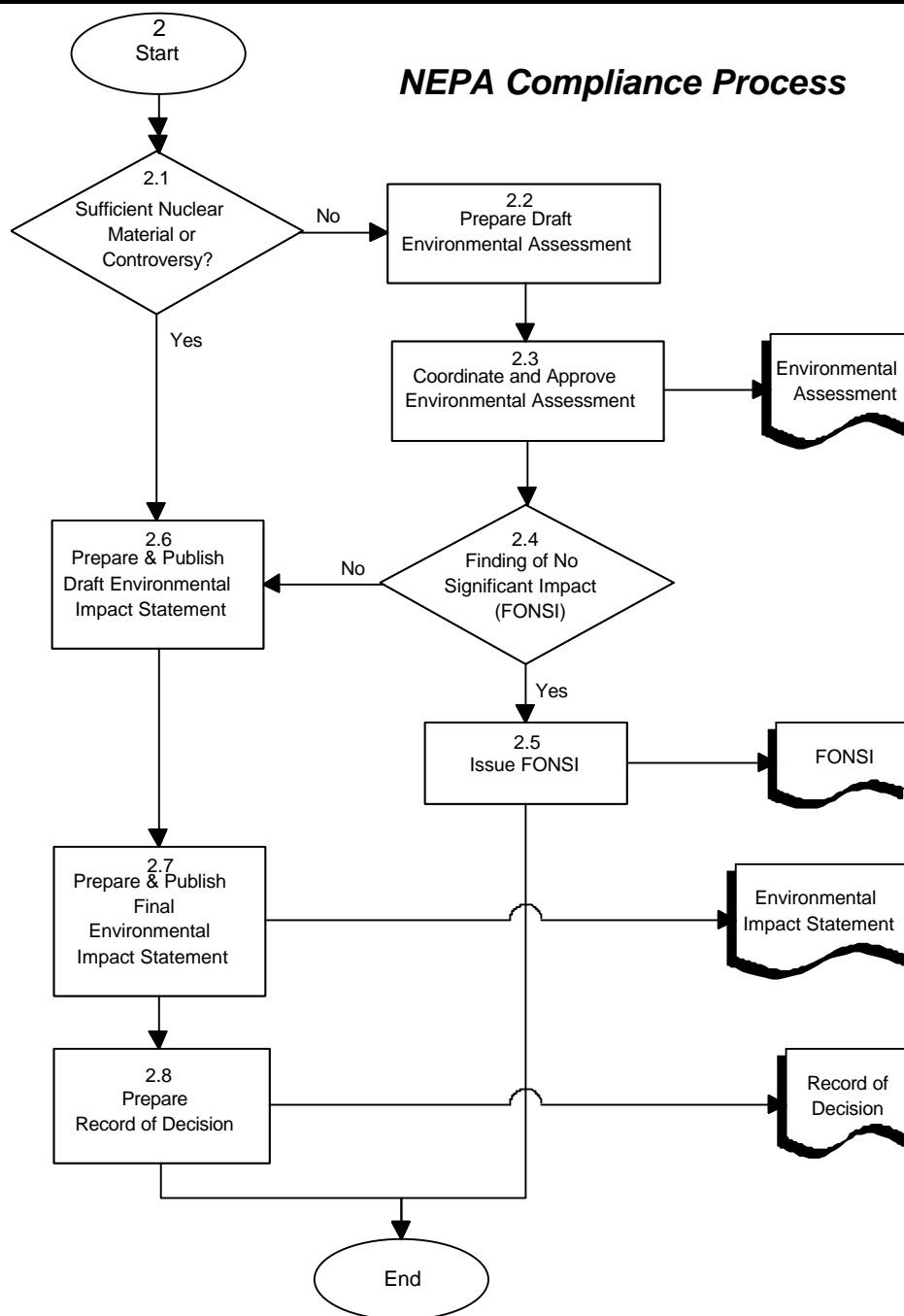
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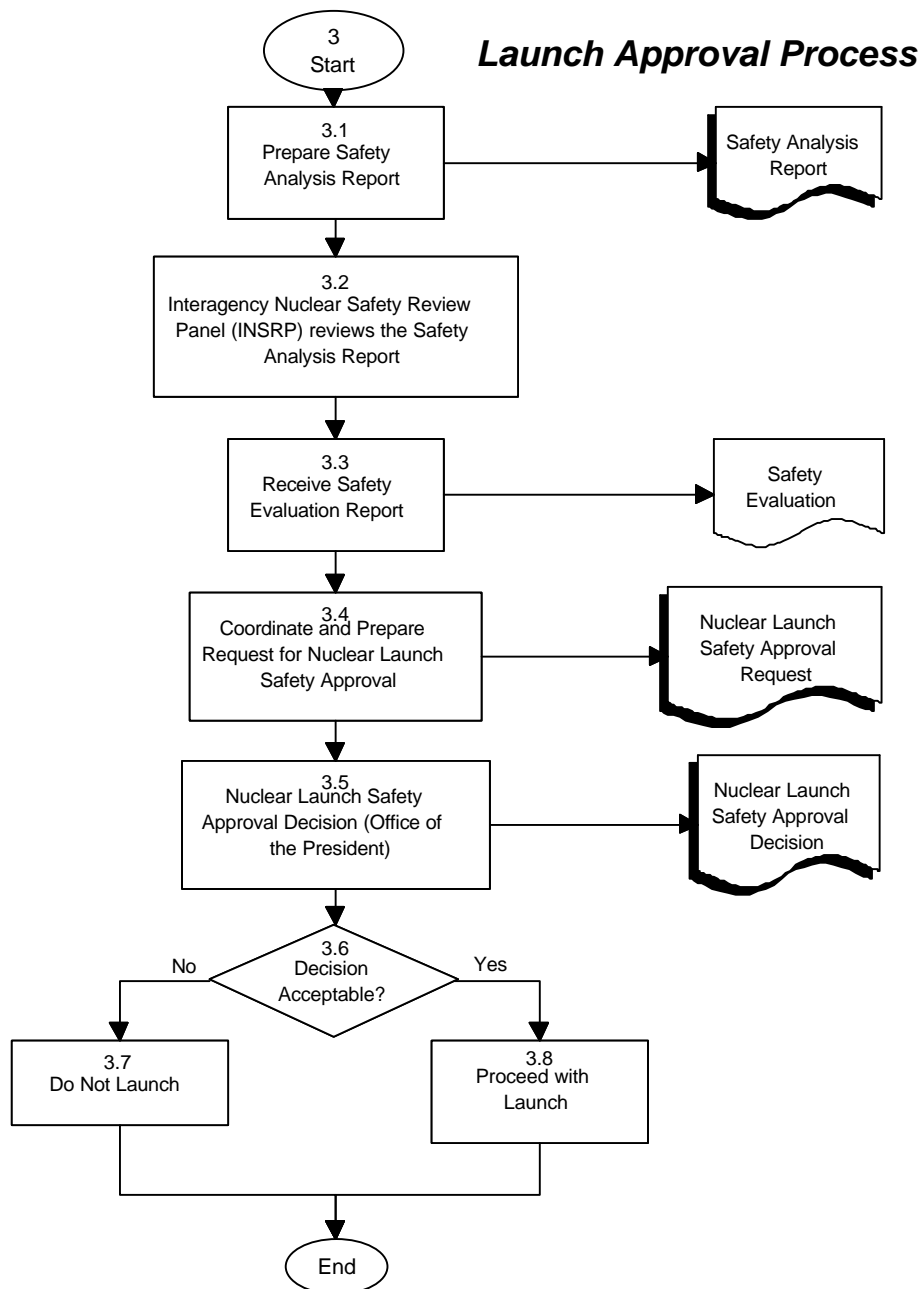
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6. PROCEDURE

[NOTE: The following sequence of process steps is numbered in accordance with the number assigned to each corresponding function block in the flowchart in Section 5.]

<u>STEP #</u>	<u>AGENTS</u>	<u>DESCRIPTION</u>
1	Program Executive	The order of document preparation is based on the legal requirements and program/project complexity. In general, NEPA compliance should commence as early as possible in formulation, with a target for completion in the Critical Design Review timeframe. If sufficient nuclear material is anticipated (as determined early in the NEPA process), the Nuclear Launch Safety Approval process should also commence. The Mission Success Criteria and Contingency Plans are usually prepared approximately three months prior to launch. The Launch Readiness Statement is usually received just prior to launch. The Program Executive also determines if there are mission-unique requirements that necessitate the preparation of additional pre-launch Headquarters documents.
2	Program Executive	Execute the NEPA Compliance Process.
2.1	Program Executive	A meeting is held to determine if sufficient nuclear material is present or if the mission has the potential for public controversy (e.g., a sample return). Minimum attendance includes the Program Executive, Enterprise Deputy Associate Administrator, NASA Counsel representative, and an Environmental Compliance Office representative.
2.2	Program Executive	The Program Executive assigns the preparation of the Environmental Assessment to the cognizant Program/Project Manager.
2.3	Program Manager Program Executive	For a mission at a NASA Center, the Center Program/Project Manager coordinates reviews with the appropriate participating agencies and publishes the EA. For a mission at the Jet Propulsion Laboratory (JPL), the Program Executive

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coordinates reviews and publishes the EA.

- 2.4 Program Manager
Program Executive A meeting is held to determine if there is a Finding of No Significant Impact (FONSI). For a mission at a NASA Center, the Center Program/Project Manager coordinates this meeting. For a mission at JPL, the Program Executive coordinates the meeting. If the EA shows a significant environmental impact or public controversy, then the EIS process must be completed (see Step #2.6).
- 2.5 Program Manager
Program Executive For a mission at a NASA Center, the Center Program/Project Manager prepares the FONSI that is approved by the Center Director. For a mission at JPL, the Program Executive prepares the FONSI that is approved by the Enterprise Associate Administrator. After approval, all FONSI's are published in the Federal Register.
- 2.6 Program Executive The Program Executive is responsible for the preparation of the Draft Environmental Impact Statement (EIS) in accordance with applicable regulations and law. A Notice of Intent is published in the Federal Register prior to preparing the Draft EIS. When the Draft EIS is complete, a Notice of Availability is published in the Federal Register, and the Draft EIS is mailed to all participating agencies and interested public parties.
- 2.7 Program Executive Agency and public comments, as well as any updated mission information, are incorporated into the Final EIS. A Notice of Availability is published in the Federal Register, and the Final EIS is mailed to all participating agencies and interested public parties.
- 2.8 Program Executive The Program Executive prepares the Record of Decision that is approved by the Enterprise Associate Administrator.
- 3 Program Executive Execute the Launch Approval Process.
- 3.1 Project The Program/Project at the Lead Center prepares the Safety

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| Manager | Analysis Report (SAR) that is delivered to the Program Executive, nominally 12 months prior to launch. |
| 3.2 INSRP | The ad hoc Interagency Nuclear Safety Review Panel (INSRP) receives and reviews the SAR. |
| 3.3 INSRP | The INSRP prepares a Safety Evaluation Report (SER) that is delivered to the Program Executive, nominally 4 to 6 months prior to launch. |
| 3.4 Program Executive | The Program Executive uses SAR and SER information to prepare and coordinate the Nuclear Launch Safety Approval Request. Coordination is with the participating agencies and the appropriate Associate Administrators. The Request is signed by the NASA Administrator for submittal to the Office of the President. |
| 3.5 OSTP | The Office of the President renders a Nuclear Launch Safety Approval decision and notifies NASA in writing. |
| 3.6 NASA Administrator | NASA receives the Nuclear Launch Safety Approval decision (usually days prior to the launch). |
| 3.7 Program Executive | A negative Nuclear Launch Safety Approval decision could have significant Program/Project impact. Options for a reclama would require careful consideration. |
| 3.8 Program Executive | A positive Nuclear Launch Safety Approval decision is mandatory for launch. |
| 4 Program Executive | Approximately 3 months prior to launch, the Program Executive prepares the Mission Success Criteria based on the mission Program-Level requirements and the as-built spacecraft configuration. |
| 4.1 Program Executive | The Program Executive coordinates review with the Program Scientist, the Science Theme Director, the Project Manager, the Project Scientist, and others as appropriate. The Enterprise |

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Associate Administrator provides final approval. The Program Executive maintains the Mission Success Criteria until end-of-mission.

- 5 Program Executive The Program Executive prepares the HQ Mission Contingency Plan in accordance with NPD 8621.1, negotiates concurrences with the appropriate Associate Administrators, and obtains approval from the Enterprise Associate Administrator.
- 5.1 Program Executive If nuclear materials are on the spacecraft, then the Program Executive supports development of the following plans and includes a reference and summary in the HQ Mission Contingency Plan prepared in Step #5.1:
 - 5.2 Code Q (a) Radiological Emergency Preparedness Plan prepared by Code Q;
 - 5.3 KSC (b) Launch Area Radiological Contingency Plan prepared at the launch site; and
 - 5.4 Code P (c) Joint Information Center Plan prepared by Code P.
- 6 Program Executive The Enterprise Associate Administrator and the Program Executive receive the Launch Readiness Statement from the Lead Center Director, usually within 1 month prior to launch.
- 6.1 Program Executive If the Launch Readiness Statement is acceptable, the Enterprise Associate Administrator or his designee provides Enterprise approvals during readiness reviews at the launch site.
- 6.2 Program Executive If the Launch Readiness Statement is unacceptable, the Program Executive prepares and coordinates appropriate corrective guidance to the Lead Center.

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7. QUALITY RECORDS

RECORD IDENTIFICATION	OWNER	LOCATION	MEDIA (ELECTRONIC/HARDCOPY)	RETENTION	DISPOSITION
Environmental Assessment	SD Division	Code SD Division files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.
Environmental Impact Statement	SD Division	Code SD Division files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.
Finding of No Significant Impact	SD Division	Code SD Division files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.
Headquarters Mission Contingency Plan	SD Division	Code SD Division files	Hardcopy	Retain through completion of program/project	Destroy after completion of program/project
Joint Information Center Plan	Program Manager	Program Manager files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.
Mission Success Criteria	SD Division	Code SD Division files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.
Nuclear Launch Safety Approval Request	Code S	Code S files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.
Nuclear Launch Safety Approval Decision	Code S	Code S files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.
Record of Decision	SD Division	Code SD Division files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.
Safety Analysis Report	SD Division	Code SD Division files	Hardcopy	Retain through completion of program/project	Transfer to FRC. Destroy after 6 years.

[NOTE #1: These "quality record" output products are identified in Section 5 ("Flowchart") of this OWI via shadowing of the standard ANSI document symbol.]

[NOTE #2: In accordance with NPG 1441.1 NASA Records Retention Schedules, "... installations' office of primary responsibility will maintain one official record copy ...; reference copies may be maintained for related work". Therefore, the "Retention" and "Disposition" aspects of quality records apply only to the one official record copy of each quality record.]

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